

REMARKS

The above Amendments and these Remarks are in response to the Office action mailed April 28, 2008. Claims 1-3 were withdrawn. Claims 4 and 11 have been amended. These amendments are sourced from the original specification and drawings of the present application, therefore no new matter is added. Claims 4-11 are pending in the application. Applicant appreciates Examiner's careful review of the present application.

Double Patenting

Claims 4-11 were provisionally rejected on the ground of nonstatutory double patenting over claims 1-4 of copending Patent No. 6,889,106.

In response, Applicant has amended claims 4 and 11 by adding more limitations therein, for the purpose of overcoming the double patenting rejection over the referenced copending patent. Support for the amendments can be found at least in paragraphs [0023], [0029], [0031] and [0032] of the present specification as originally filed. The following remarks herein are responsive to the rejection.

Applicant submits that amended claim 4 of the present application provides the limitations of "simulating the original MPS according to a default scheduling rule, and generating simulation results". The default scheduling rule is any one of a first maturity rule, a shortest process time rule, a urgency rule, and a first in, first out (FIFO) rule (refers to paragraph [0031]). These limitations are not recited in claims 1-4 of the referenced copending patent. Applicant further asserts that amended claim 4 of the present application provides the limitations of "determining whether there are one or more contingencies that require rescheduling of the original MPS; amending the original MPS if there are no said contingencies, and returning to step (c) regarding the amended MPS". None of these limitations are recited in claims 1-4 of the referenced copending patent. Accordingly, the subject matter of amended claim 4 of the present application is patentably distinct from the subject matter of claims 1-4 of the referenced copending patent.

Similarly, Applicant submits that amended claim 11 of the present application provides the limitations of “simulating RCCP (Rough-Cut Capacity Planning) and MRP (Material Requires Planning), and determining whether the production capability and the production materials can meet the demands of the original MPS”. These limitations are not recited in claims 1-4 of the referenced copending patent. Applicant further asserts that amended claim 11 of the present application provides the limitations of “amending the original MPS if there is insufficient production capability or lack of production materials; generating an optimized MPS after one or more amendments of the original MPS”. These limitations are not recited in claim 11 of the referenced copending patent. Accordingly, the subject matter of amended claim 11 of the present application is patentably distinct from the subject matter of claims 1-4 of the referenced copending patent.

In conclusion, significant subject matter claimed in the present application is not recited in the claims of the referenced copending patent, and would not be covered by any patent granted to the referenced copending patent. In particular, the referenced copending patent and the present application are not claiming common subject matter, and the presently claimed subject matter is unobvious in view of the claims of the referenced copending patent. Accordingly, it is submitted that claims 4-11 of the present application are patentable over claims 1-4 of the referenced copending patent. Reconsideration and removal of the double patenting rejection of claims 4-11 of the present application are requested.

Claim Rejections Under 35 U.S.C. 102

Claim 11 was rejected under 35 U.S.C. 102(b) as being anticipated by Zweben et al. (U.S. Patent Number 6,216,109, hereinafter referred to as Zweben)

Claim Rejections Under 35 U.S.C. 103

Claims 4-10 were rejected under 35 U.S.C. 103(a) by being unpatentable over Zweben in view of Borg et al. (U.S. 5,835,898, hereinafter referred to as Borg).

In response, Applicant has amended claims 4 and 11 by adding more limitations thereto. Support for the amendments can be found in at least paragraphs [0023] and [0029] of the originally filed specification of the present application. No new matter is added. These amendments have been made at least for the purpose of overcoming the rejections. Applicant respectfully requests reconsideration and removal of the rejections of the claims 4-11, as follows:

Claim 11

Claim 11, as amended, recites in part:

“(b) maintaining MPS (Master Production Schedule) parameters, *wherein the MPS parameters comprises production modes, ATP (Available to Promise), and DTF (Demand Time Fence)*; [and]

(c) generating an original MPS *according to the MPS parameters.*”

Applicant submits that Zweben does not disclose, teach, or otherwise suggest the above-highlighted features, as currently set forth in amended claim 11.

Zweben discloses a method for scheduling a complex activity that is governed by a set of pre-defined constraints including consumable resource constraints ... (Zweben col. 5, lines 25-40). The resource constraints include temporal constraints, milestone constraints, resource constraints, state constraints and preemptive constraints (Zweben col. 1, lines 41-45). Zweben further discloses an MRP system, the MRP system accepts production requirements of the build schedule, subassembly and raw materials inventory levels (to net production requirements against existing inventory), bills of materials (BOMs) associated with the production of the finished goods and subassemblies, and information regarding production and material ordering lead times (Zweben col. 3, lines 23-32). Thus, it is apparent that the pre-defined constraints and the MRP system disclosed in Zweben do not include the MPS parameters (i.e., the production modes, the ATPs, and the DTFs) as recited in amended claim 11. Furthermore, there is no teaching or

suggestion in Zweben in relation to the claimed feature of “generating an original MPS according to the MPS parameters” as recited in amended claim 11.

Furthermore, claim 11, as amended, recites in part:

“(d) simulating RCCP (Rough-Cut Capacity Planning) and MRP (Material Requires Planning), *and determining whether the production capability and the production materials can meet the demands of the original MPS;*

(e) amending the original MPS *if there is insufficient production capability or lack of production materials;* and

(f) generating an optimized MPS *after one or more amendments of the original MPS.”*

Applicant submits that Zweben does not disclose, teach, or otherwise suggest the invention having the above-highlighted features as set forth in amended claim 11.

Zweben discloses that RCCP (Rough-Cut Capacity Planning) and MRP (Material Requires Planning) have been used in the manufacturing context to address the capacity planning problem (Zweben col. 2, lines 56-66; and col. 3, lines 1-30). Zweben further discloses a method for scheduling a complex activity ..., the method includes the steps of: establishing the unacceptable schedule as a current schedule; calculating a score for the current schedule; repairing one or more constraint violations of the current schedule by modifying the current schedule without relaxing the set of pre-defined constraints; determining a revised schedule from the schedule modification or modifications made by the constraint violation repair or repairs; ... repeating until a predetermined condition is met ...; selecting one of the revised schedules as the final schedule. The step of repeating is performed until a predetermined condition is met. For example, the predetermined condition can be that the score of the new current schedule is better than a pre-established threshold score (Zweben col. 5, lines 35-55).

Even assuming that the RCCP and MRP are disclosed by Zweben, however, it is apparent that the predetermined condition used in Zweben is different from the claimed feature of “insufficient production capability or lack of production materials” as recited in amended claim

11 of the present application. Thus, the claimed features of “determining whether the production capability and the production materials can meet the demands of the original MPS; amending the original MPS if there is insufficient production capability or lack of production materials” are not disclosed, taught or suggested at all by Zweben. Furthermore, Zweben fails to disclose, teach or suggest the claimed feature of “generating an optimized MPS after one or more amendments of the original MPS”, as recited in amended claim 11 of the present application.

For at least the above reasons, applicant submits that Zweben does not disclose, teach, or otherwise suggest the invention having the above-highlighted features, as currently set forth in amended claim 11. That is, amended claim 11 is not only novel over Zweben under 35 U.S.C. 102(b), but also unobvious and patentable over Zweben under 35 U.S.C. 103. Reconsideration and removal of the rejection of amended claim 11 are requested.

Claims 4-10

Claim 4, as amended, recites in part:

- “(a) selecting an original MPS to be simulated;
- (b) *selecting a simulation mode;*
- (c) *simulating the original MPS according to the selected simulation mode and a default scheduling rule, and generating simulation results;*
- (d) generating a simulation report based on the simulation results; [and]
- (e) *determining whether there are one or more contingencies that require rescheduling of the original MPS.*”

Applicant submits that Zweben and Borg, whether taken alone or in combination, do not teach or otherwise suggest the above-highlighted features, as currently set forth in amended claim 4.

Zweben discloses a method for scheduling a complex activity ..., the method includes the steps of: establishing the unacceptable schedule as a current schedule; calculating a score for the current schedule; repairing one or more constraint violations of the current schedule by modifying the current schedule without relaxing the set of pre-defined constraints; determining a revised schedule from the schedule modification or modifications made by the constraint violation repair or repairs; ... repeating until a predetermined condition is met ...; selecting one of the revised schedules as the final schedule. The step of repeating is performed until a predetermined condition is met. For example, the predetermined condition can be that the score of the new current schedule is better than a pre-established threshold score (Zweben col. 5, lines 35-55).

As disclosed above, Zweben calculates a score for an unacceptable schedule ... repeating until a predetermined condition is met ..., however, the amended claim 4 of the present application simulates an original MPS (may be an acceptable schedule or an unacceptable schedule) according to a selected simulation mode and a default scheduling rule, ... determines whether there are one or more contingencies (i.e., insufficient production capability or production materials) that require rescheduling of the original MPS.

It is apparent that the claimed feature of “calculating a score for an unacceptable schedule” recited in claim 1 of Zweben is different from the claimed feature of “simulating the original MPS according to the selected simulation mode and a default scheduling rule, ...” recited in amended claim 4 of the present application. Furthermore, the predetermined condition used in Zweben is different from the claimed feature of “contingencies (i.e., insufficient production capability or production materials)” recited in amended claim 4 of the present application. Thus, the claimed features of “simulating the original MPS according to the selected simulation mode and a default scheduling rule, and generating simulation results” and “determining whether there are one or more contingencies that require rescheduling of the original MPS” are not disclosed, taught or suggested at all by Zweben. Further, Zweben fails to disclose, teach or suggest the claimed feature of “selecting a simulation mode”, as recited in amended claim 4.

As indicated on page 8 of the current Office action, Borg teaches that “the current practice of the larger companies in the manufacturing industry is to use one or more computer-generated reports, either on paper or displayed on a monitor, to identify areas in the manufacturing facility where the work load exceed the available capacity” (col. 1, lines 43-46).

Even assuming that the feature of “generating a simulation report based on the simulation results” is disclosed or taught by Borg, Applicant submits that Borg fails to teach or suggest the feature “simulating the original MPS according to the selected simulation mode and a default scheduling rule, and generating simulation results”, and fails to teach or suggest the feature “determining whether there are one or more contingencies that require rescheduling of the original MPS”, as recited in amended claim 4 of the present application.

Because neither Zweben nor Borg, taken alone or in combination, disclose, teach, or otherwise suggest such a usage of the above-highlighted features as taught in the present invention, and also because modifications to Borg would change Zweben’s principle of operation in manner contrary to their stated purpose, the idea to modify must be drawn via impermissible hindsight from the present invention.

To a person of ordinary skill in the art, there are no instances in either Zweben’s system or in the Borg reference where it is obvious to use the above-highlighted features as provided in the present application. That is, the manner of using the above-highlighted features claimed in amended claim 4 of the present invention is unobvious over Zweben in view of Borg. Therefore, the idea to modify either/or or both Borg and Zweben must be drawn via impermissible hindsight from the present application. For at least the above-describe reasons, the rejection of claim 4 is improper and should be withdrawn. Applicant respectfully submits that amended claim 4 is unobvious and patentable under 35 U.S.C. §103 over Zweben in view of Borg. Reconsideration and removal of the rejection and allowance of the claim are requested.

Claims 5-10 directly or non-directly depend from claim 4, and respectively incorporate additional features therein. Accordingly, claims 5-10 are also unobvious and patentable over Zweben in view of Borg.

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In view of the above remarks, the subject application is believed to be in condition for allowance, and an action to such effect is earnestly solicited.

CONCLUSION

Applicant submits that the foregoing Response place this application in condition for allowance. If Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an Examiner's amendment, please call the undersigned at 714.626.1224.

Respectfully,

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By /Frank R. Niranjana/ Date: July 18, 2008

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